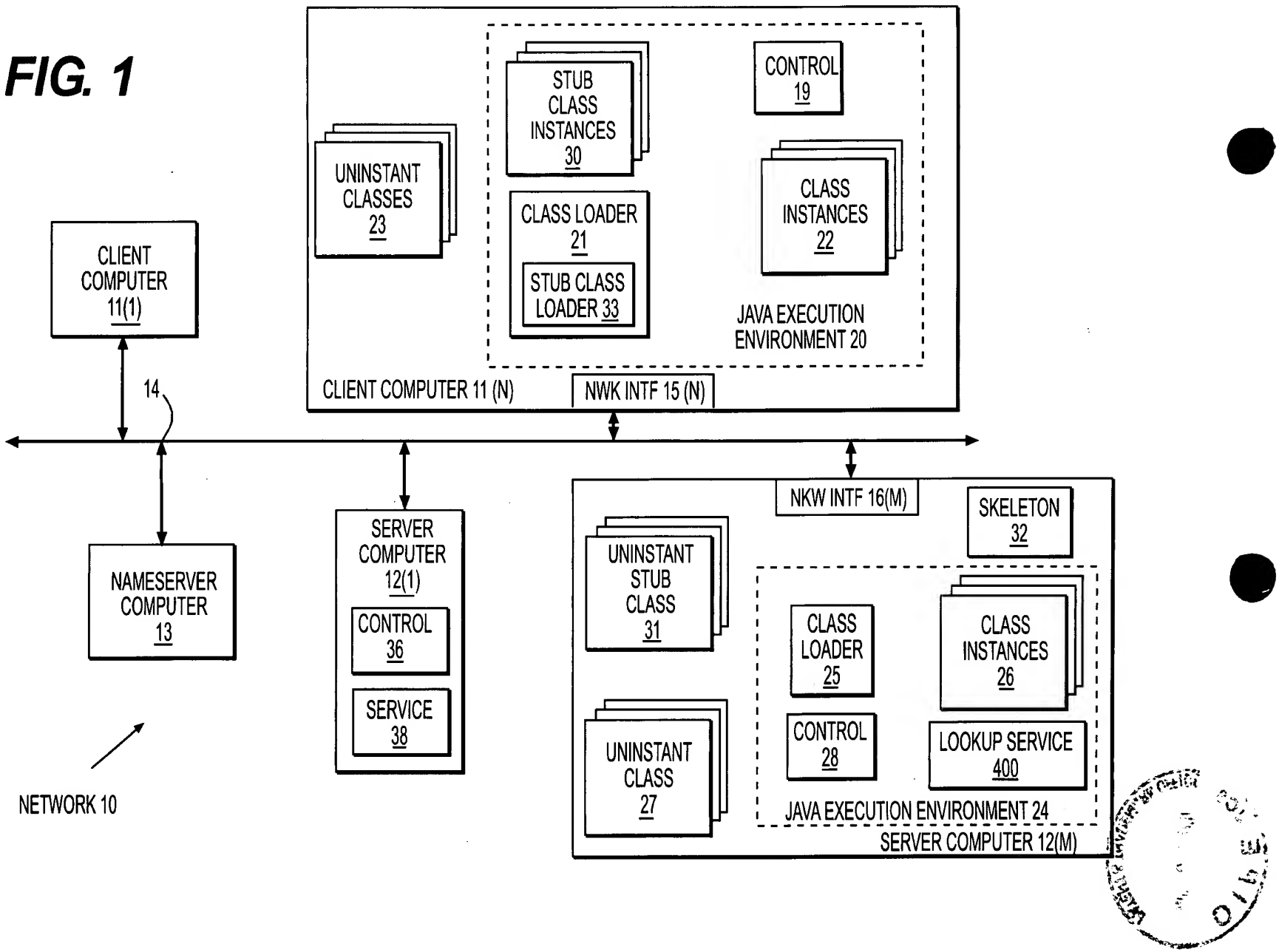
Microsoft Confidential

FIG. 1



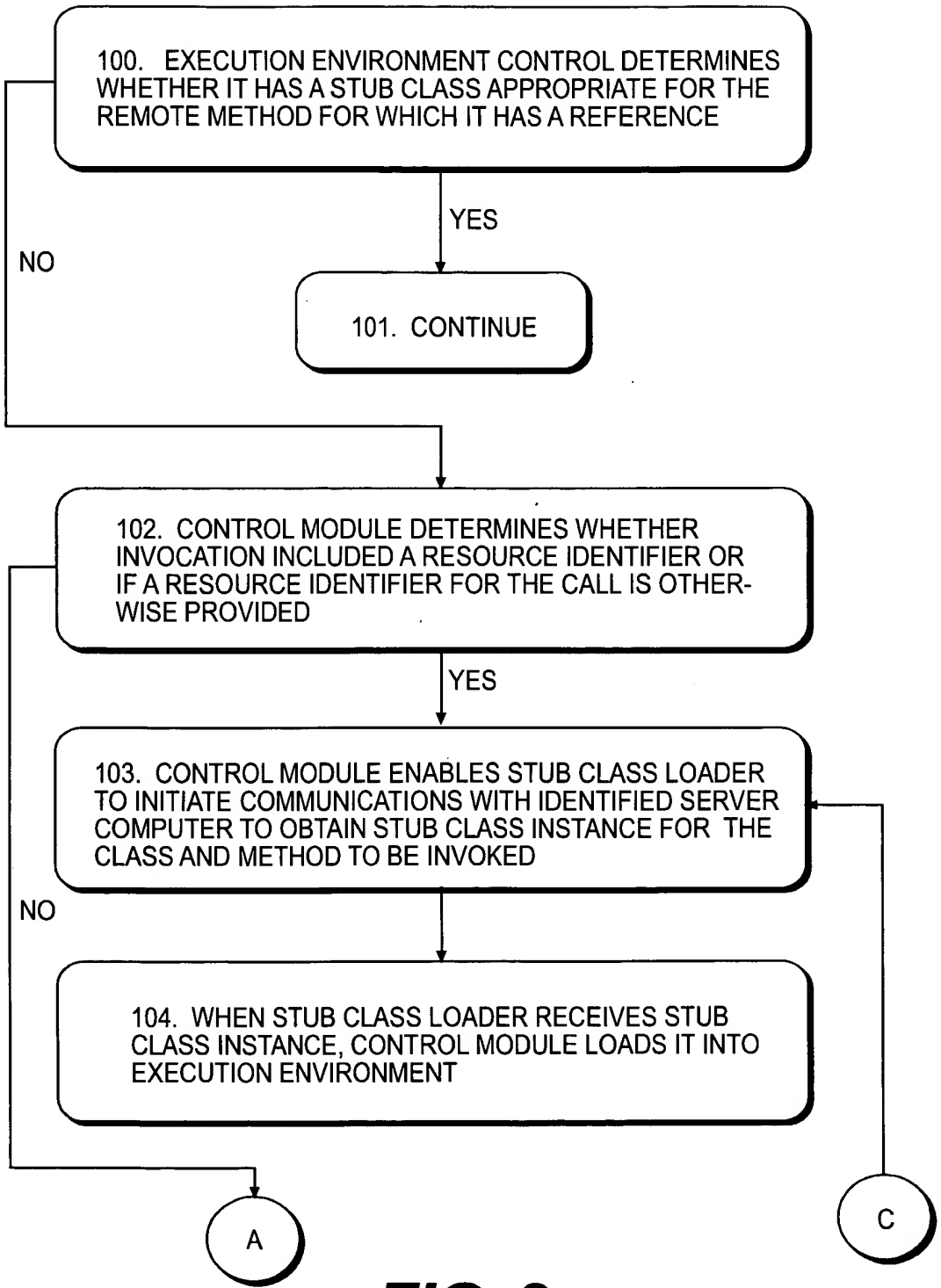

100. EXECUTION ENVIRONMENT CONTROL DETERMINES WHETHER IT HAS A STUB CLASS APPROPRIATE FOR THE REMOTE METHOD FOR WHICH IT HAS A REFERENCE
YES
NO
101. CONTINUE
102. CONTROL MODULE DETERMINES WHETHER INVOCATION INCLUDED A RESOURCE IDENTIFIER OR IF A RESOURCE IDENTIFIER FOR THE CALL IS OTHER-WISE PROVIDED
YES
103. CONTROL MODULE ENABLES STUB CLASS LOADER TO INITIATE COMMUNICATIONS WITH IDENTIFIED SERVER COMPUTER TO OBTAIN STUB CLASS INSTANCE FOR THE CLASS AND METHOD TO BE INVOKED
NO
104. WHEN STUB CLASS LOADER RECEIVES STUB CLASS INSTANCE, CONTROL MODULE LOADS IT INTO EXECUTION ENVIRONMENT
A
C

FIG. 2

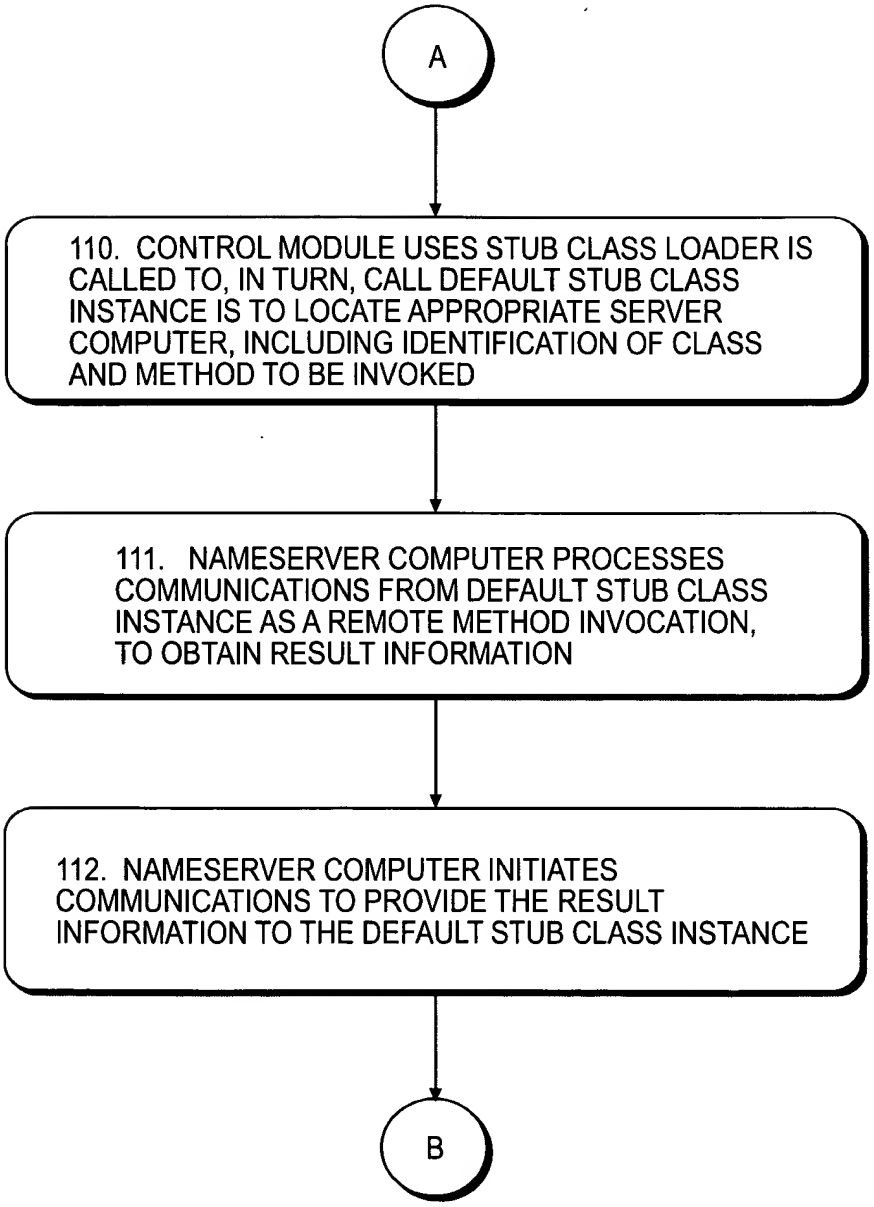

A
110. CONTROL MODULE USES STUB CLASS LOADER IS CALLED TO, IN TURN, CALL DEFAULT STUB CLASS INSTANCE IS TO LOCATE APPROPRIATE SERVER COMPUTER, INCLUDING IDENTIFICATION OF CLASS AND METHOD TO BE INVOKED
111. NAMESERVER COMPUTER PROCESSES COMMUNICATIONS FROM DEFAULT STUB CLASS INSTANCE AS A REMOTE METHOD INVOCATION, TO OBTAIN RESULT INFORMATION
112. NAMESERVER COMPUTER INITIATES COMMUNICATIONS TO PROVIDE THE RESULT INFORMATION TO THE DEFAULT STUB CLASS INSTANCE
B

FIG. 2 (CONT. A)

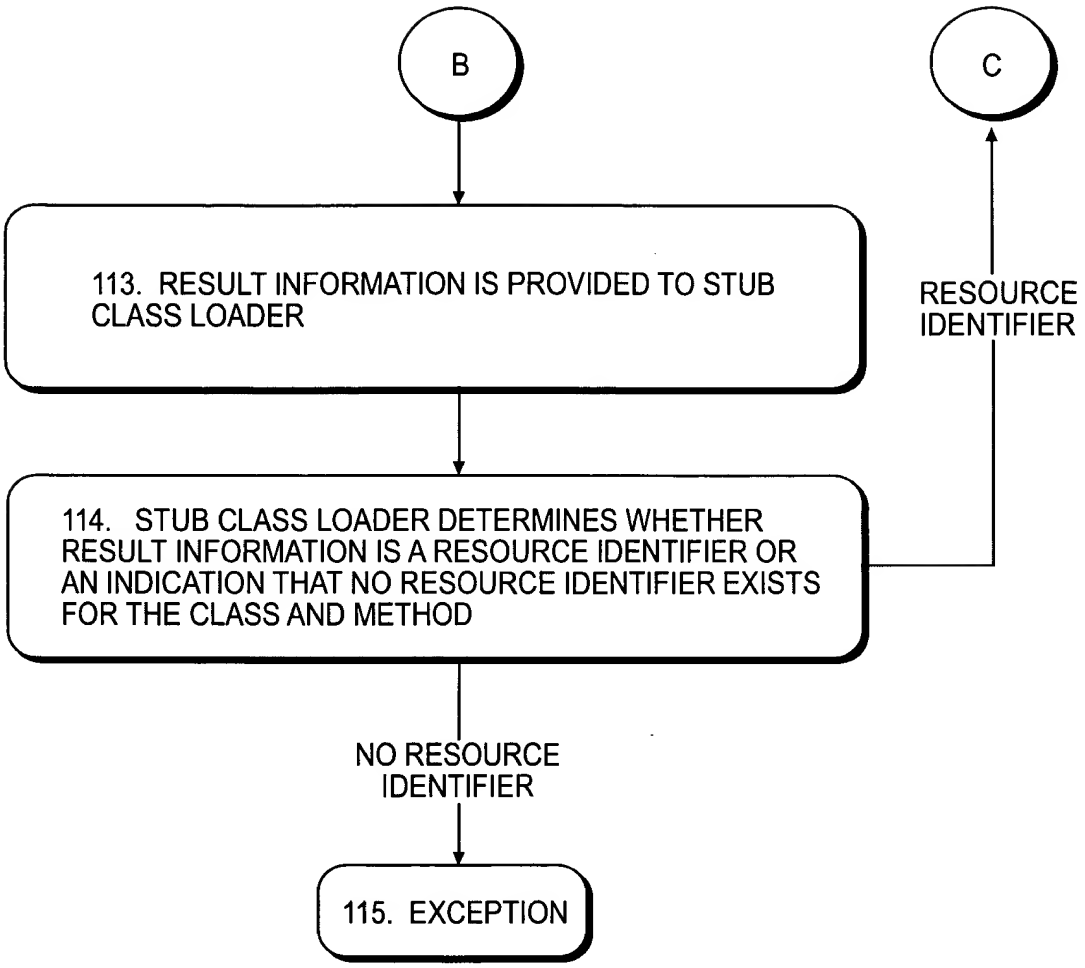

B
C
113. RESULT INFORMATION IS PROVIDED TO STUB CLASS LOADER
RESOURCE IDENTIFIER
114. STUB CLASS LOADER DETERMINES WHETHER RESULT INFORMATION IS A RESOURCE IDENTIFIER OR AN INDICATION THAT NO RESOURCE IDENTIFIER EXISTS FOR THE CLASS AND METHOD
NO RESOURCE IDENTIFIER
115. EXCEPTION

FIG. 2 (CONT. B)

T0984-5965US

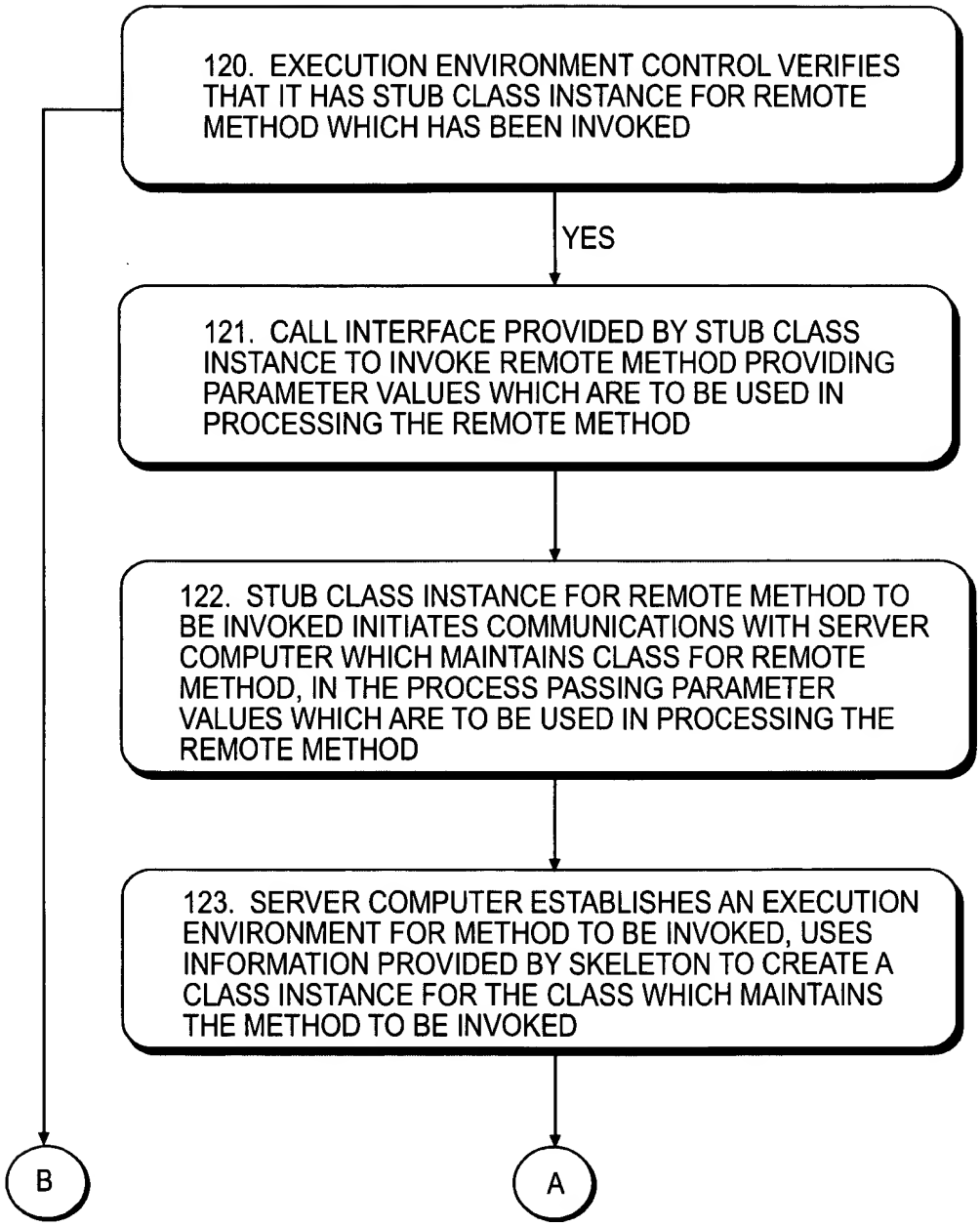


FIG. 3

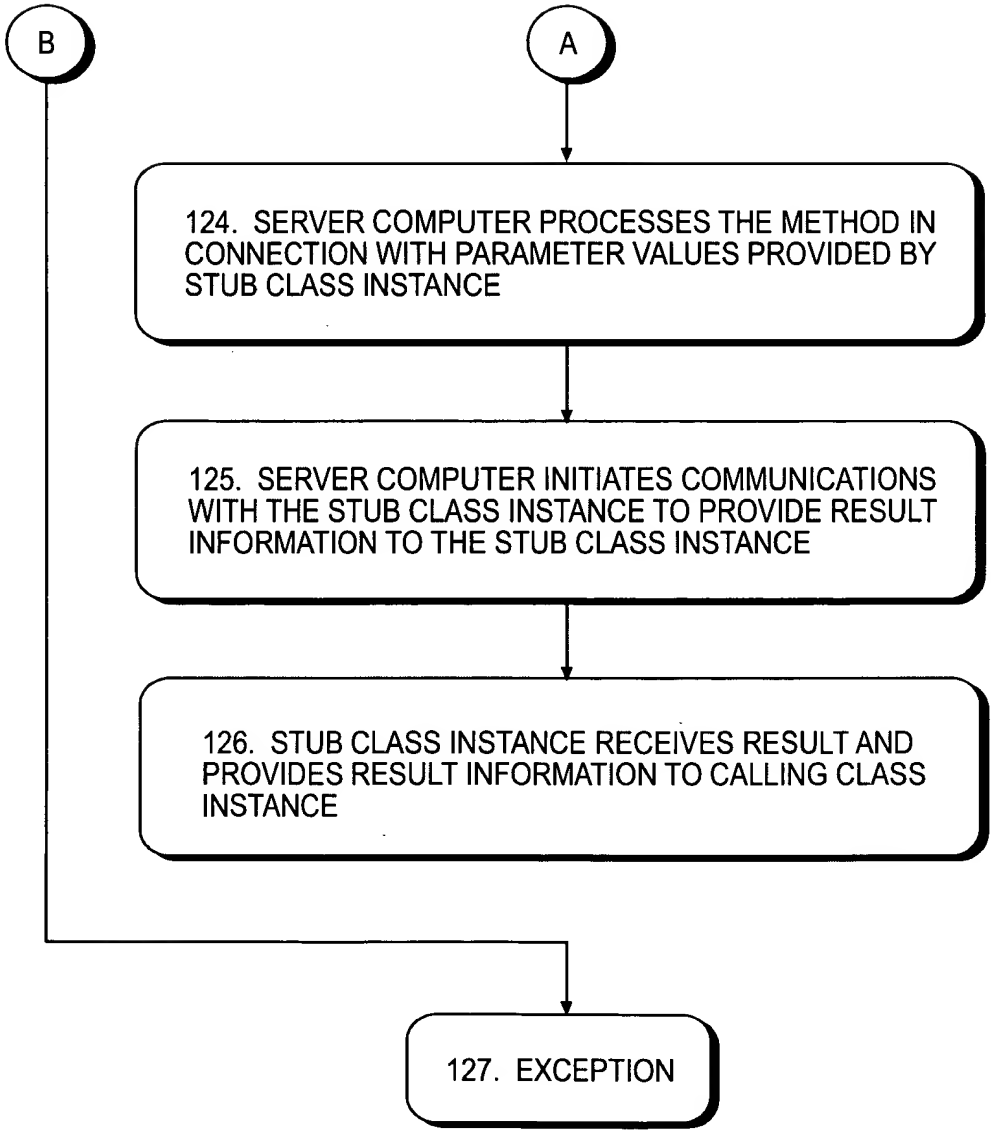

B
A
124. SERVER COMPUTER PROCESSES THE METHOD IN CONNECTION WITH PARAMETER VALUES PROVIDED BY STUB CLASS INSTANCE
125. SERVER COMPUTER INITIATES COMMUNICATIONS WITH THE STUB CLASS INSTANCE TO PROVIDE RESULT INFORMATION TO THE STUB CLASS INSTANCE
126. STUB CLASS INSTANCE RECEIVES RESULT AND PROVIDES RESULT INFORMATION TO CALLING CLASS INSTANCE
127. EXCEPTION

FIG. 3 (CONT. A)

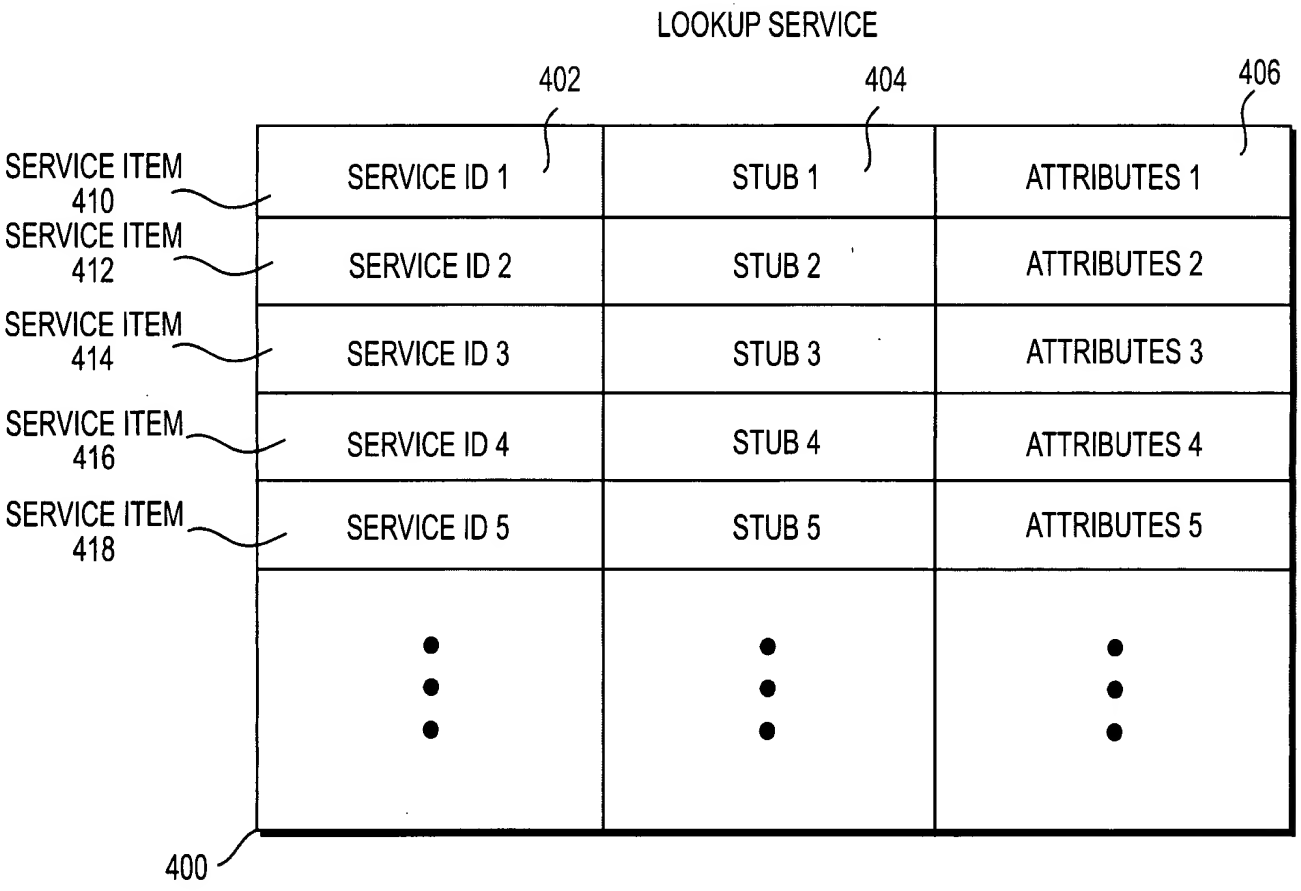

LOOKUP SERVICE
402
404
406
SERVICE ITEM 410
SERVICE ITEM 412
SERVICE ITEM 414
SERVICE ITEM 416
SERVICE ITEM 418
SERVICE ID 1
STUB 1
ATTRIBUTES 1
SERVICE ID 2
STUB 2
ATTRIBUTES 2
SERVICE ID 3
STUB 3
ATTRIBUTES 3
SERVICE ID 4
STUB 4
ATTRIBUTES 4
SERVICE ID 5
STUB 5
ATTRIBUTES 5
400

FIG. 4

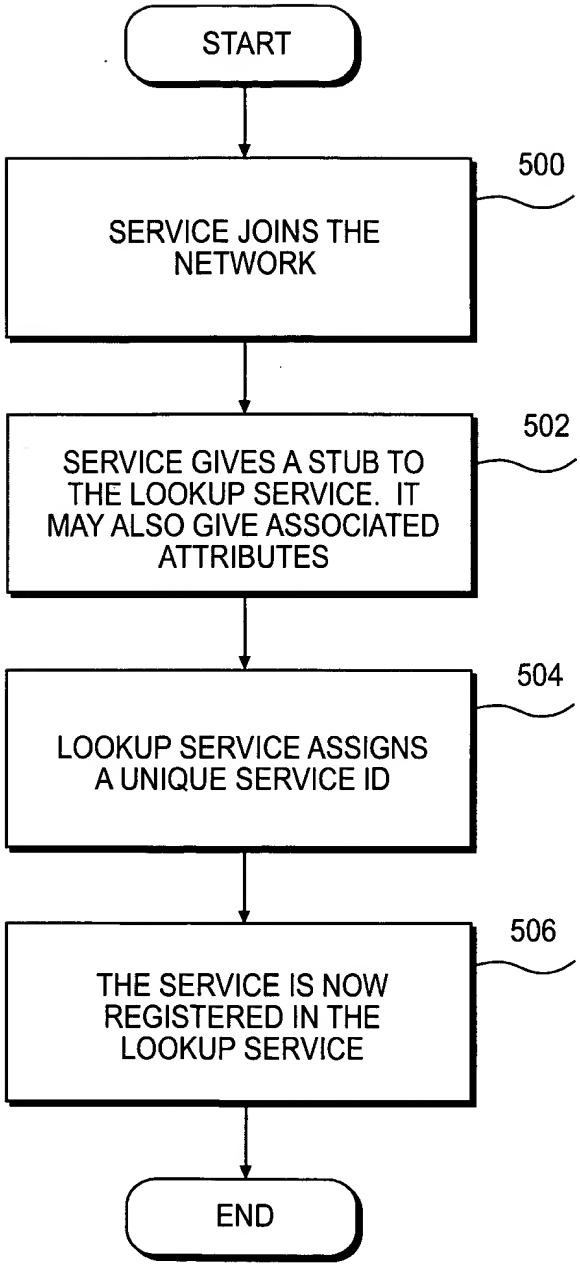

START
SERVICE JOINS THE NETWORK
500
SERVICE GIVES A STUB TO THE LOOKUP SERVICE. IT MAY ALSO GIVE ASSOCIATED ATTRIBUTES
502
LOOKUP SERVICE ASSIGNS A UNIQUE SERVICE ID
504
THE SERVICE IS NOW REGISTERED IN THE LOOKUP SERVICE
506
END

FIG. 5

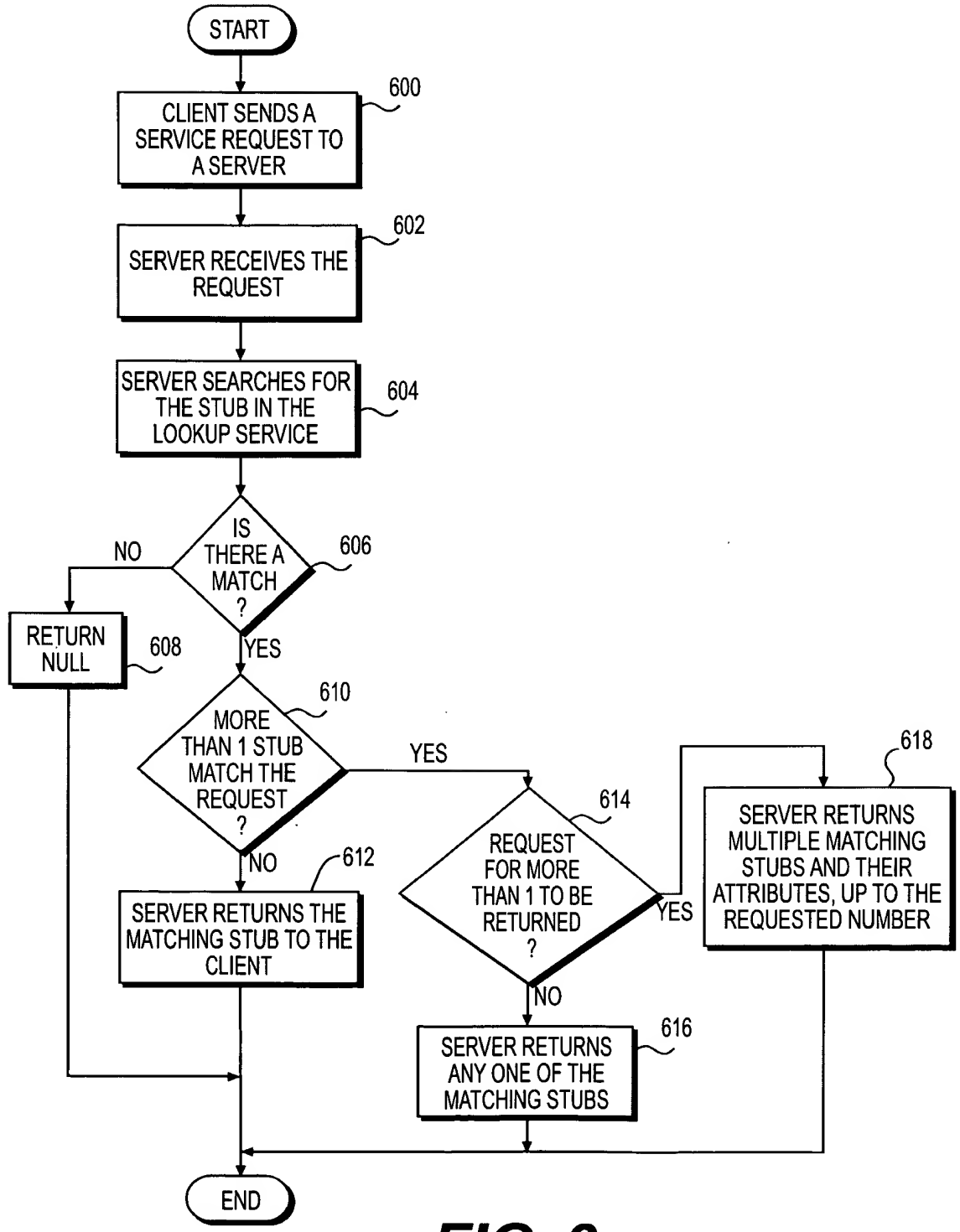

START
CLIENT SENDS A SERVICE REQUEST TO A SERVER
600
SERVER RECEIVES THE REQUEST
602
SERVER SEARCHES FOR THE STUB IN THE LOOKUP SERVICE
604
IS THERE A MATCH ?
606
NO
YES
RETURN NULL
608
MORE THAN 1 STUB MATCH THE REQUEST ?
610
YES
NO
SERVER RETURNS THE MATCHING STUB TO THE CLIENT
612
REQUEST FOR MORE THAN 1 TO BE RETURNED ?
614
YES
NO
SERVER RETURNS MULTIPLE MATCHING STUBS AND THEIR ATTRIBUTES, UP TO THE REQUESTED NUMBER
618
SERVER RETURNS ANY ONE OF THE MATCHING STUBS
616
END

FIG. 6